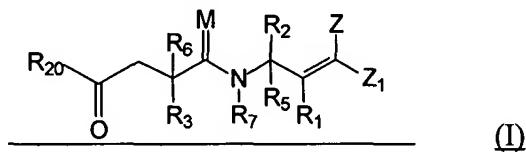


IN THE CLAIMS:

1-29. (Cancelled).

30. (Currently Amended) A method of treating a mammalian disease condition mediated by picornaviral protease activity that comprises the step of administering to a mammal in need thereof a therapeutically effective amount of at least one compound as defined in claim 1 or a pharmaceutically acceptable prodrug, salt, active metabolite, or solvate thereof of the formula (I):

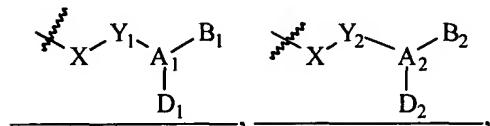


wherein

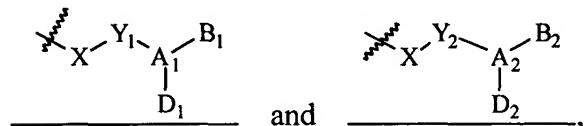
M is O or S;

R1 is H, F, an alkyl group, OH, SH, or an O-alkyl group;

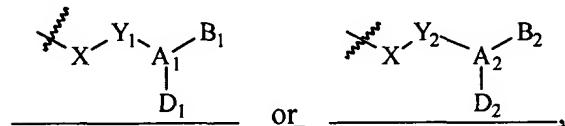
R2 and R5 are independently selected from H,



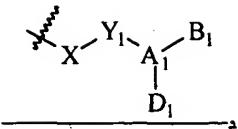
or an alkyl group, wherein said alkyl group is different from



with the proviso that at least one of R2 or R5 must be



and wherein, when R2 or R5 is



X is =CH or =CF and Y<sub>1</sub> is =CH or =CF

or X and Y<sub>1</sub> together with Q' form a three-membered ring in which Q' is -

C(R<sub>10</sub>)(R<sub>11</sub>)- or -O-, X is -CH- or -CF-, and Y<sub>1</sub> is -CH-, -CF-, or -C(alkyl)-,  
where R<sub>10</sub> and R<sub>11</sub> independently are H, a halogen, or an alkyl group, or,  
together with the carbon atom to which they are attached, form a cycloalkyl  
group or a heterocycloalkyl group,

or X is -CH<sub>2</sub>-, -CF<sub>2</sub>-, -CHF-, or -S-, and Y<sub>1</sub> is -O-, -S-, -NR<sub>12</sub>-, -C(R<sub>13</sub>)(R<sub>14</sub>)-, -

C(O)-, -C(S)-, or -C(CR<sub>13</sub>R<sub>14</sub>)-,  
wherein R<sub>12</sub> is H or alkyl, and R<sub>13</sub> and R<sub>14</sub> independently are H, F, or  
an alkyl group, or, together with the atoms to which they are bonded,  
form a cycloalkyl group or a heterocycloalkyl group;

A<sub>1</sub> is C, CH, CF, S, P, Se, N, NR<sub>15</sub>, S(O), Se(O), P-OR<sub>15</sub>, or P-NR<sub>15</sub>R<sub>16</sub>,

wherein R<sub>15</sub> and R<sub>16</sub> independently are an alkyl group, a cycloalkyl group, a  
heterocycloalkyl group, an aryl group, or a heteroaryl group, or, together  
with the atom to which they are bonded, form a heterocycloalkyl group;

D<sub>1</sub> is a moiety with a lone pair of electrons capable of forming a hydrogen bond;

and

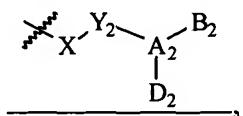
B<sub>1</sub> is H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl

group, a heteroaryl group, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,

wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl  
group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an  
acyl group;

and with the provisos that when D<sub>1</sub> is the moiety ≡N with a lone pair of electrons capable  
of forming a hydrogen bond, B<sub>1</sub> does not exist; and when A<sub>1</sub> is an sp<sup>3</sup> carbon, B<sub>1</sub> is not -

NR<sub>17</sub>R<sub>18</sub> when D<sub>1</sub> is the moiety -NR<sub>25</sub>R<sub>26</sub> with a lone pair of electrons capable of forming a hydrogen bond, wherein R<sub>25</sub> and R<sub>26</sub> are independently H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group; and wherein D<sub>1</sub>-A<sub>1</sub>-B<sub>1</sub> optionally forms a nitro group where A<sub>1</sub> is N; and further wherein, when R<sub>2</sub> or R<sub>5</sub> is



X is =CH or =CF and Y<sub>2</sub> is =C, =CH, or =CF,

or X and Y<sub>2</sub> together with Q' form a three-membered ring in which Q' is -C(R<sub>10</sub>)(R<sub>11</sub>)- or -O-, X is -CH- or -CF-, and Y<sub>2</sub> is -CH-, -CF-, or -C(alkyl)-, where R<sub>10</sub> and R<sub>11</sub> independently are H, a halogen, or an alkyl group, or together with the carbon atom to which they are attached, form a cycloalkyl group or a heterocycloalkyl group.

or X is -CH<sub>2</sub>-, -CF<sub>2</sub>-, -CHF-, or -S-, and Y<sub>2</sub> is -O-, -S-, -N(R'<sub>12</sub>)-, -C(O)-, -C(R'<sub>13</sub>)(R'<sub>14</sub>)-, -C(S)-, or -C(CR'<sub>13</sub>R'<sub>14</sub>)-, wherein R'<sub>12</sub> is H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -OR'<sub>13</sub>-, -NR'<sub>13</sub>R'<sub>14</sub>, -C(O)-R'<sub>13</sub>, -SO<sub>2</sub>R'<sub>13</sub>, or -C(S)R'<sub>13</sub>, and R'<sub>13</sub> and R'<sub>14</sub>, independently are H, F, or an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group, or together with the atom to which they are attached, form a cycloalkyl group or a heterocycloalkyl group;

A<sub>2</sub> is C, CH, CF, S, P, Se, N, NR<sub>15</sub>, S(O), Se(O), P-OR<sub>15</sub>, or P-NR<sub>15</sub>R<sub>16</sub>

wherein R<sub>15</sub> and R<sub>16</sub> independently are an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group, or, together with the atom to which they are bonded, form a heterocycloalkyl group;

D<sub>2</sub> is a moiety with a lone pair of electrons capable of forming a hydrogen bond;  
and

B<sub>2</sub> is H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,  
wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group;

and further wherein any combination of Y<sub>2</sub>, A<sub>2</sub>, B<sub>2</sub>, and D<sub>2</sub> optionally can form a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group;  
R<sub>3</sub> and R<sub>6</sub> are independently H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -C(O)R<sub>17</sub>, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>,  
or -NR<sub>17</sub>OR<sub>18</sub>,

wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group;  
or, R<sub>3</sub> and R<sub>6</sub>, together with the carbon atom to which they are attached, form a cycloalkyl group or a heterocycloalkyl group;

R<sub>7</sub> is H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,  
wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group;  
or R<sub>7</sub>, together with R<sub>3</sub> or R<sub>6</sub> and the atoms to which they are attached, forms a heterocycloalkyl group;

R<sub>20</sub> is H, OH, or any suitable organic moiety; and  
Z and Z<sub>1</sub> are independently H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -C(O)R<sub>21</sub>, -CO<sub>2</sub>R<sub>21</sub>, -CN, -C(O)NR<sub>21</sub>R<sub>22</sub>, -C(O)NR<sub>21</sub>OR<sub>22</sub>, -C(S)R<sub>21</sub>, -C(S)NR<sub>21</sub>R<sub>22</sub>, -NO<sub>2</sub>, -SOR<sub>21</sub>, -SO<sub>2</sub>R<sub>21</sub>, -SO<sub>2</sub>NR<sub>21</sub>R<sub>22</sub>, -SO(NR<sub>21</sub>)(OR<sub>22</sub>), -SONR<sub>21</sub>, -SO<sub>3</sub>R<sub>21</sub>, -PO(OR<sub>21</sub>)<sub>2</sub>, -PO(R<sub>21</sub>)(R<sub>22</sub>), -PO(NR<sub>21</sub>R<sub>22</sub>)(OR<sub>23</sub>),

PO(NR<sub>21</sub>R<sub>22</sub>)(NR<sub>23</sub>R<sub>24</sub>), -C(O)NR<sub>21</sub>NR<sub>22</sub>R<sub>23</sub>, or -C(S)NR<sub>21</sub>NR<sub>22</sub>R<sub>23</sub>,

wherein R<sub>21</sub>, R<sub>22</sub>, R<sub>23</sub>, and R<sub>24</sub> are independently H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, an acyl group, or a thioacyl group, or wherein any two of R<sub>21</sub>, R<sub>22</sub>, R<sub>23</sub>, and R<sub>24</sub>, together with the atom(s) to which they are bonded, form a heterocycloalkyl group;

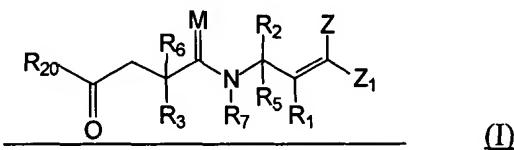
or Z<sub>1</sub>, as defined above, together with R<sub>1</sub>, as defined above, and the atoms to which Z<sub>1</sub> and R<sub>1</sub> are bonded, form a cycloalkyl or heterocycloalkyl group,

or Z and Z<sub>1</sub>, both as defined above, together with the atoms to which they are bonded, form a cycloalkyl or heterocycloalkyl group;

or a pharmaceutically acceptable prodrug, salt, active metabolite, or solvate thereof;

and wherein said compound, or pharmaceutically acceptable prodrug, salt, active metabolite, or solvate thereof, has antipicornaviral activity with an EC<sub>50</sub> less than or equal to 10  $\mu$ M in the HI-HeLa cell culture assay.

31. (Currently amended) A method of inhibiting the activity of a picornaviral 3C protease that comprises the step of contacting the picornaviral 3C protease with an effective amount of at least one compound as defined in claim 1 or a pharmaceutically acceptable prodrug, salt, active metabolite, or solvate thereof of the formula (I):

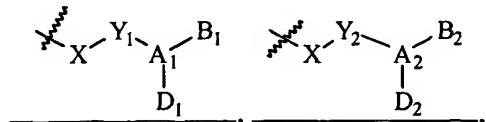


wherein

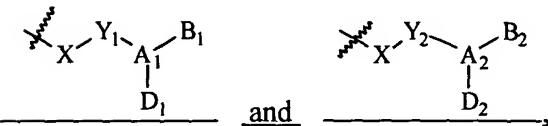
M is O or S;

R<sub>1</sub> is H, F, an alkyl group, OH, SH, or an O-alkyl group;

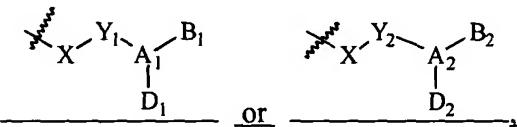
R<sub>2</sub> and R<sub>5</sub> are independently selected from H,



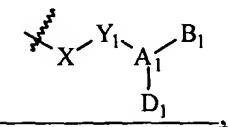
or an alkyl group, wherein said alkyl group is different from



with the proviso that at least one of R<sub>2</sub> or R<sub>5</sub> must be



and wherein, when R<sub>2</sub> or R<sub>5</sub> is



X is =CH or =CF and Y<sub>1</sub> is =CH or =CF,

or X and Y<sub>1</sub> together with Q' form a three-membered ring in which Q' is -C(R<sub>10</sub>)(R<sub>11</sub>)- or -O-, X is -CH- or -CF-, and Y<sub>1</sub> is -CH-, -CF-, or -C(alkyl)-, where R<sub>10</sub> and R<sub>11</sub> independently are H, a halogen, or an alkyl group, or, together with the carbon atom to which they are attached, form a cycloalkyl group or a heterocycloalkyl group.

or X is -CH<sub>2</sub>-, -CF<sub>2</sub>-, -CHF-, or -S-, and Y<sub>1</sub> is -O-, -S-, -NR<sub>12</sub>-, -C(R<sub>13</sub>)(R<sub>14</sub>)-, -C(O)-, -C(S)-, or -C(CR<sub>13</sub>R<sub>14</sub>)-, wherein R<sub>12</sub> is H or alkyl, and R<sub>13</sub> and R<sub>14</sub> independently are H, F, or an alkyl group, or, together with the atoms to which they are bonded, form a cycloalkyl group or a heterocycloalkyl group;

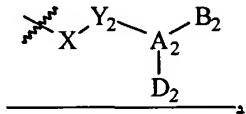
A<sub>1</sub> is C, CH, CF, S, P, Se, N, NR<sub>15</sub>, S(O), Se(O), P-OR<sub>15</sub>, or P-NR<sub>15</sub>R<sub>16</sub>, wherein R<sub>15</sub> and R<sub>16</sub> independently are an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group, or, together with the atom to which they are bonded, form a heterocycloalkyl group;

D<sub>1</sub> is a moiety with a lone pair of electrons capable of forming a hydrogen bond;

and

B<sub>1</sub> is H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>, wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group;

and with the provisos that when D<sub>1</sub> is the moiety  $\equiv$ N with a lone pair of electrons capable of forming a hydrogen bond, B<sub>1</sub> does not exist; and when A<sub>1</sub> is an sp<sup>3</sup> carbon, B<sub>1</sub> is not -NR<sub>17</sub>R<sub>18</sub> when D<sub>1</sub> is the moiety -NR<sub>25</sub>R<sub>26</sub> with a lone pair of electrons capable of forming a hydrogen bond, wherein R<sub>25</sub> and R<sub>26</sub> are independently H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group; and wherein D<sub>1</sub>-A<sub>1</sub>-B<sub>1</sub> optionally forms a nitro group where A<sub>1</sub> is N; and further wherein, when R<sub>2</sub> or R<sub>5</sub> is



X is =CH or =CF and Y<sub>2</sub> is =C, =CH, or =CF,

or     X and Y<sub>2</sub> together with Q' form a three-membered ring in which Q' is -C(R<sub>10</sub>)(R<sub>11</sub>)- or -O-, X is -CH- or -CF-, and Y<sub>2</sub> is -CH-, -CF-, or -C(alkyl)-, where R<sub>10</sub> and R<sub>11</sub> independently are H, a halogen, or an alkyl group, or together with the carbon atom to which they are attached, form a cycloalkyl group or a heterocycloalkyl group.

or     X is -CH<sub>2</sub>-, -CF<sub>2</sub>-, -CHF-, or -S-, and Y<sub>2</sub> is -O-, -S-, -N(R'<sub>12</sub>)-, -C(O)-, -C(R'<sub>13</sub>)(R'<sub>14</sub>)-, -C(S)-, or -C(CR'<sub>13</sub>R'<sub>14</sub>)-, wherein R'<sub>12</sub> is H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -OR'<sub>13</sub>-, NR'<sub>13</sub>R'<sub>14</sub>, -C(O)-R'<sub>13</sub>, -SO<sub>2</sub>R'<sub>13</sub>, or -C(S)R'<sub>13</sub>, and R'<sub>13</sub> and R'<sub>14</sub>

independently are H, F, or an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group, or, together with the atom to which they are attached, form a cycloalkyl group or a heterocycloalkyl group;

A<sub>2</sub> is C, CH, CF, S, P, Se, N, NR<sub>15</sub>, S(O), Se(O), P-OR<sub>15</sub>, or P-NR<sub>15</sub>R<sub>16</sub>,

wherein R<sub>15</sub> and R<sub>16</sub> independently are an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group, or, together with the atom to which they are bonded, form a heterocycloalkyl group;

D<sub>2</sub> is a moiety with a lone pair of electrons capable of forming a hydrogen bond; and

B<sub>2</sub> is H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,

wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group;

and further wherein any combination of Y<sub>2</sub>, A<sub>2</sub>, B<sub>2</sub>, and D<sub>2</sub> optionally can form a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group;

R<sub>5</sub> and R<sub>6</sub> are independently H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -C(O)R<sub>17</sub>, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,

wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group;

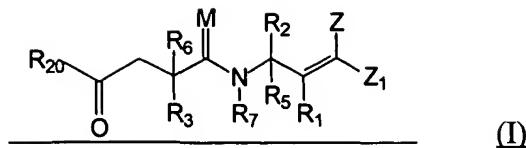
or, R<sub>5</sub> and R<sub>6</sub>, together with the carbon atom to which they are attached, form a cycloalkyl group or a heterocycloalkyl group;

R<sub>7</sub> is H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,

wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a

heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group;  
or R<sub>7</sub>, together with R<sub>3</sub> or R<sub>6</sub> and the atoms to which they are attached, forms a  
heterocycloalkyl group;  
R<sub>20</sub> is H, OH, or any suitable organic moiety; and  
Z and Z<sub>1</sub> are independently H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl  
group, an aryl group, a heteroaryl group, -C(O)R<sub>21</sub>, -CO<sub>2</sub>R<sub>21</sub>, -CN, -C(O)NR<sub>21</sub>R<sub>22</sub>, -  
C(O)NR<sub>21</sub>OR<sub>22</sub>, -C(S)R<sub>21</sub>, -C(S)NR<sub>21</sub>R<sub>22</sub>, -NO<sub>2</sub>, -SOR<sub>21</sub>, -SO<sub>2</sub>R<sub>21</sub>, -SO<sub>2</sub>NR<sub>21</sub>R<sub>22</sub>, -  
SO(NR<sub>21</sub>)(OR<sub>22</sub>), -SONR<sub>21</sub>, -SO<sub>3</sub>R<sub>21</sub>, -PO(OR<sub>21</sub>)<sub>2</sub>, -PO(R<sub>21</sub>)(R<sub>22</sub>), -PO(NR<sub>21</sub>R<sub>22</sub>)(OR<sub>23</sub>),  
PO(NR<sub>21</sub>R<sub>22</sub>)(NR<sub>23</sub>R<sub>24</sub>), -C(O)NR<sub>21</sub>NR<sub>22</sub>R<sub>23</sub>, or -C(S)NR<sub>21</sub>NR<sub>22</sub>R<sub>23</sub>,  
wherein R<sub>21</sub>, R<sub>22</sub>, R<sub>23</sub>, and R<sub>24</sub> are independently H, an alkyl group, a cycloalkyl  
group, a heterocycloalkyl group, an aryl group, a heteroaryl group, an acyl group, or  
a thioacyl group, or wherein any two of R<sub>21</sub>, R<sub>22</sub>, R<sub>23</sub>, and R<sub>24</sub>, together with the  
atom(s) to which they are bonded, form a heterocycloalkyl group;  
or Z<sub>1</sub>, as defined above, together with R<sub>1</sub>, as defined above, and the atoms to which Z<sub>1</sub>  
and R<sub>1</sub> are bonded, form a cycloalkyl or heterocycloalkyl group,  
or Z and Z<sub>1</sub>, both as defined above, together with the atoms to which they are bonded,  
form a cycloalkyl or heterocycloalkyl group;  
or a pharmaceutically acceptable prodrug, salt, active metabolite, or solvate thereof;  
and wherein said compound, or pharmaceutically acceptable prodrug, salt, active  
metabolite, or solvate thereof, has antipicornaviral activity with an EC<sub>50</sub> less than or equal  
to 10 µM in the HI-HeLa cell culture assay.

32. (Currently Amended) A method of inhibiting the activity of a rhinoviral protease that comprises the step of contacting the rhinoviral protease with an effective amount of at least one compound as defined in claim 1 or a pharmaceutically acceptable prodrug, salt, active metabolite, or solvate thereof of the formula (I):

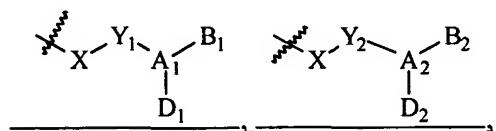


wherein

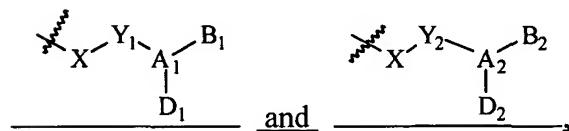
M is O or S;

R<sub>1</sub> is H, F, an alkyl group, OH, SH, or an O-alkyl group;

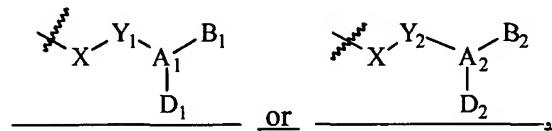
R<sub>2</sub> and R<sub>5</sub> are independently selected from H,



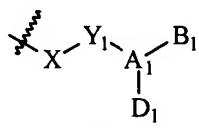
or an alkyl group, wherein said alkyl group is different from



with the proviso that at least one of R<sub>2</sub> or R<sub>5</sub> must be



and wherein, when R<sub>2</sub> or R<sub>5</sub> is



X is =CH or =CF and Y<sub>1</sub> is =CH or =CF,

or X and Y<sub>1</sub> together with Q' form a three-membered ring in which Q' is -

C(R<sub>10</sub>)(R<sub>11</sub>)- or -O-, X is -CH- or -CF-, and Y<sub>1</sub> is -CH-, -CF-, or -C(alkyl)-,

where R<sub>10</sub> and R<sub>11</sub> independently are H, a halogen, or an alkyl group, or,

together with the carbon atom to which they are attached, form a cycloalkyl

group or a heterocycloalkyl group,

or X is -CH<sub>2</sub>-, -CF<sub>2</sub>-, -CHF-, or -S-, and Y<sub>1</sub> is -O-, -S-, -NR<sub>12</sub>-, -C(R<sub>13</sub>)(R<sub>14</sub>)-, -C(O)-, -C(S)-, or -C(CR<sub>13</sub>R<sub>14</sub>)-,

wherein R<sub>12</sub> is H or alkyl, and R<sub>13</sub> and R<sub>14</sub> independently are H, F, or an alkyl group, or, together with the atoms to which they are bonded, form a cycloalkyl group or a heterocycloalkyl group;

A<sub>1</sub> is C, CH, CF, S, P, Se, N, NR<sub>15</sub>, S(O), Se(O), P-OR<sub>15</sub>, or P-NR<sub>15</sub>R<sub>16</sub>,

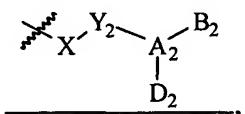
wherein R<sub>15</sub> and R<sub>16</sub> independently are an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group, or, together with the atom to which they are bonded, form a heterocycloalkyl group;

D<sub>1</sub> is a moiety with a lone pair of electrons capable of forming a hydrogen bond; and

B<sub>1</sub> is H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,

wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group;

and with the provisos that when D<sub>1</sub> is the moiety ≡N with a lone pair of electrons capable of forming a hydrogen bond, B<sub>1</sub> does not exist; and when A<sub>1</sub> is an sp<sup>3</sup> carbon, B<sub>1</sub> is not -NR<sub>17</sub>R<sub>18</sub> when D<sub>1</sub> is the moiety -NR<sub>25</sub>R<sub>26</sub> with a lone pair of electrons capable of forming a hydrogen bond, wherein R<sub>25</sub> and R<sub>26</sub> are independently H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group;  
and wherein D<sub>1</sub>-A<sub>1</sub>-B<sub>1</sub> optionally forms a nitro group where A<sub>1</sub> is N;  
and further wherein, when R<sub>2</sub> or R<sub>5</sub> is



X is =CH or =CF and Y<sub>2</sub> is =C, =CH, or =CF,

or X and Y<sub>2</sub> together with Q' form a three-membered ring in which Q' is -  
C(R<sub>10</sub>)(R<sub>11</sub>)- or -O-, X is -CH- or -CF-, and Y<sub>2</sub> is -CH-, -CF-, or -C(alkyl)-,  
where R<sub>10</sub> and R<sub>11</sub> independently are H, a halogen, or an alkyl group, or,  
together with the carbon atom to which they are attached, form a cycloalkyl  
group or a heterocycloalkyl group.

or X is -CH<sub>2</sub>-, -CF<sub>2</sub>-, -CHF-, or -S-, and Y<sub>2</sub> is -O-, -S-, -N(R'<sub>12</sub>)-, -C(O)-, -  
C(R'<sub>13</sub>)(R'<sub>14</sub>)-, -C(S)-, or -C(CR'<sub>13</sub>R'<sub>14</sub>)-,  
wherein R'<sub>12</sub> is H, an alkyl group, a cycloalkyl group, a  
heterocycloalkyl group, an aryl group, a heteroaryl group, -OR'<sub>13</sub>-,  
NR'<sub>13</sub>R'<sub>14</sub>, -C(O)-R'<sub>13</sub>, -SO<sub>2</sub>R'<sub>13</sub>, or -C(S)R'<sub>13</sub>, and R'<sub>13</sub> and R'<sub>14</sub>,  
independently are H, F, or an alkyl group, a cycloalkyl group, a  
heterocycloalkyl group, an aryl group, or a heteroaryl group, or,  
together with the atom to which they are attached, form a cycloalkyl  
group or a heterocycloalkyl group;

A<sub>2</sub> is C, CH, CF, S, P, Se, N, NR<sub>15</sub>, S(O), Se(O), P-OR<sub>15</sub>, or P-NR<sub>15</sub>R<sub>16</sub>,  
wherein R<sub>15</sub> and R<sub>16</sub> independently are an alkyl group, a cycloalkyl group, a  
heterocycloalkyl group, an aryl group, or a heteroaryl group, or, together  
with the atom to which they are bonded, form a heterocycloalkyl group;

D<sub>2</sub> is a moiety with a lone pair of electrons capable of forming a hydrogen bond;  
and

B<sub>2</sub> is H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl  
group, a heteroaryl group, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,  
wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl  
group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an  
acyl group;

and further wherein any combination of Y<sub>2</sub>, A<sub>2</sub>, B<sub>2</sub>, and D<sub>2</sub> optionally can form a  
cycloalkyl group, a heterocycloalkyl group, an aryl group, or a heteroaryl group;

R<sub>3</sub> and R<sub>6</sub> are independently H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -C(O)R<sub>17</sub>, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,

wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group; or, R<sub>3</sub> and R<sub>6</sub>, together with the carbon atom to which they are attached, form a cycloalkyl group or a heterocycloalkyl group;

R<sub>7</sub> is H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -OR<sub>17</sub>, -SR<sub>17</sub>, -NR<sub>17</sub>R<sub>18</sub>, -NR<sub>19</sub>NR<sub>17</sub>R<sub>18</sub>, or -NR<sub>17</sub>OR<sub>18</sub>,

wherein R<sub>17</sub>, R<sub>18</sub>, and R<sub>19</sub> independently are H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, or an acyl group; or R<sub>7</sub>, together with R<sub>3</sub> or R<sub>6</sub> and the atoms to which they are attached, forms a heterocycloalkyl group;

R<sub>20</sub> is H, OH, or any suitable organic moiety; and

Z and Z<sub>1</sub> are independently H, F, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, -C(O)R<sub>21</sub>, -CO<sub>2</sub>R<sub>21</sub>, -CN, -C(O)NR<sub>21</sub>R<sub>22</sub>, -C(O)NR<sub>21</sub>OR<sub>22</sub>, -C(S)R<sub>21</sub>, -C(S)NR<sub>21</sub>R<sub>22</sub>, -NO<sub>2</sub>, -SOR<sub>21</sub>, -SO<sub>2</sub>R<sub>21</sub>, -SO<sub>2</sub>NR<sub>21</sub>R<sub>22</sub>, -SO(NR<sub>21</sub>)(OR<sub>22</sub>), -SONR<sub>21</sub>, -SO<sub>3</sub>R<sub>21</sub>, -PO(OR<sub>21</sub>)<sub>2</sub>, -PO(R<sub>21</sub>)(R<sub>22</sub>), -PO(NR<sub>21</sub>R<sub>22</sub>)(OR<sub>23</sub>), -PO(NR<sub>21</sub>R<sub>22</sub>)(NR<sub>23</sub>R<sub>24</sub>), -C(O)NR<sub>21</sub>NR<sub>22</sub>R<sub>23</sub>, or -C(S)NR<sub>21</sub>NR<sub>22</sub>R<sub>23</sub>,

wherein R<sub>21</sub>, R<sub>22</sub>, R<sub>23</sub>, and R<sub>24</sub> are independently H, an alkyl group, a cycloalkyl group, a heterocycloalkyl group, an aryl group, a heteroaryl group, an acyl group, or a thioacyl group, or wherein any two of R<sub>21</sub>, R<sub>22</sub>, R<sub>23</sub>, and R<sub>24</sub>, together with the atom(s) to which they are bonded, form a heterocycloalkyl group;

or Z<sub>1</sub>, as defined above, together with R<sub>1</sub>, as defined above, and the atoms to which Z<sub>1</sub> and R<sub>1</sub> are bonded, form a cycloalkyl or heterocycloalkyl group.

or Z and Z<sub>1</sub>, both as defined above, together with the atoms to which they are bonded, form a cycloalkyl or heterocycloalkyl group;

or a pharmaceutically acceptable prodrug, salt, active metabolite, or solvate thereof;  
and wherein said compound, or pharmaceutically acceptable prodrug, salt, active  
metabolite, or solvate thereof, has antipicornaviral activity with an EC<sub>50</sub> less than or equal  
to 10 μM in the HI-HeLa cell culture assay.

33-34. (Canceled).